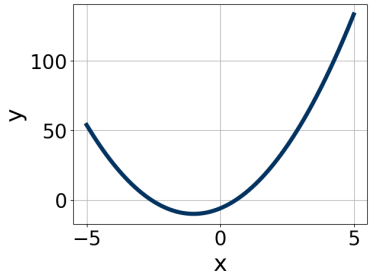
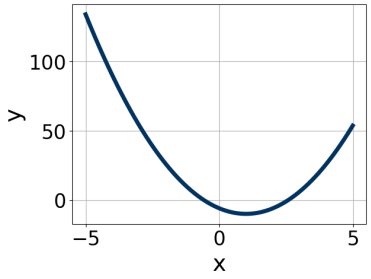
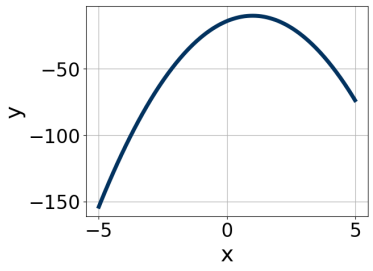
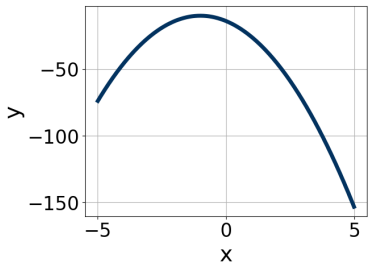
1. Graph the equation below.

$$f(x) = (x+1)^2 - 10$$

A. 

C. 

B. 

D. 

E. None of the above.

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2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d$.

$$36x^2 + 60x + 25$$

A. $a \in [5.5, 6.7]$, $b \in [4, 10]$, $c \in [4.4, 7.1]$, and $d \in [5, 10]$

B. $a \in [-1.8, 1.6]$, $b \in [28, 34]$, $c \in [0.7, 2.5]$, and $d \in [28, 31]$

C. $a \in [10.3, 14.2]$, $b \in [4, 10]$, $c \in [1.1, 4.7]$, and $d \in [5, 10]$

D. $a \in [1.1, 4.1]$, $b \in [4, 10]$, $c \in [11.7, 12.4]$, and $d \in [5, 10]$

E. None of the above.

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3. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d$.

$$24x^2 + 50x + 25$$

A. $a \in [-0.9, 2.5]$, $b \in [16, 22]$, $c \in [0.8, 1.14]$, and $d \in [30, 34]$

B. $a \in [5.3, 8.8]$, $b \in [5, 11]$, $c \in [3.86, 4.62]$, and $d \in [4, 9]$

C. $a \in [9.4, 14.1]$, $b \in [5, 11]$, $c \in [1.84, 2.09]$, and $d \in [4, 9]$

D. $a \in [2.9, 3.4]$, $b \in [5, 11]$, $c \in [4.77, 8.57]$, and $d \in [4, 9]$

E. None of the above.

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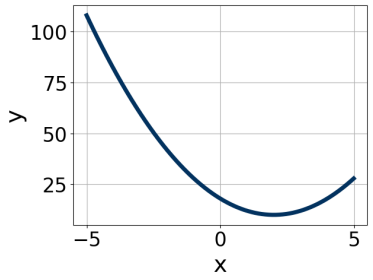
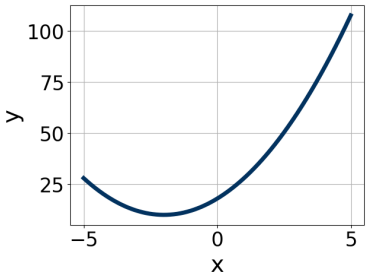
4. Graph the equation below.

$$f(x) = -(x-2)^2 + 10$$

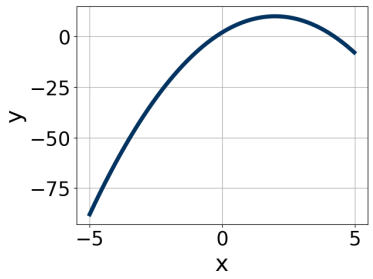
A.



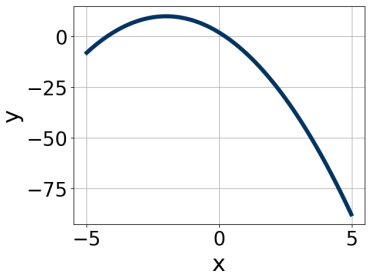
C.



B.



D.



E. None of the above.

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5. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-15x^2 + 14x + 4 = 0$$

A. $x_1 \in [-18.23, -17.35]$ and $x_2 \in [2.3, 5.3]$

B. $x_1 \in [-20.79, -19.67]$ and $x_2 \in [20.9, 21.4]$

C. $x_1 \in [-0.95, -0.13]$ and $x_2 \in [0.9, 1.9]$

D. $x_1 \in [-1.63, -0.76]$ and $x_2 \in [-0.8, 1]$

E. There are no Real solutions.

---

6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$20x^2 - 12x - 4 = 0$$

A. $x_1 \in [-2.8, -0.6]$ and $x_2 \in [-0.14, 0.51]$

B. $x_1 \in [-6.1, -3.5]$ and $x_2 \in [16.46, 17.17]$

C. $x_1 \in [-22.6, -21]$ and $x_2 \in [21, 22.99]$

D. $x_1 \in [-0.8, 0.1]$ and $x_2 \in [0.73, 0.88]$

E. There are no Real solutions.

---

7. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$10x^2 - 53x + 36 = 0$$

A. $x_1 \in [0.32, 0.5]$ and $x_2 \in [8.64, 9.16]$

B. $x_1 \in [7.96, 8.19]$ and $x_2 \in [44.81, 45.46]$

C. $x_1 \in [0.71, 0.83]$ and $x_2 \in [4.25, 5.03]$

D. $x_1 \in [0.81, 0.92]$ and $x_2 \in [3.77, 4.23]$

E. $x_1 \in [1.5, 1.82]$ and $x_2 \in [1.57, 3]$

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8. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$15x^2 + 38x + 24 = 0$$

A. $x_1 \in [-2.19, 0.62]$ and $x_2 \in [-1.26, -1.2]$

B. $x_1 \in [-3.17, -1.5]$ and $x_2 \in [-0.82, -0.45]$

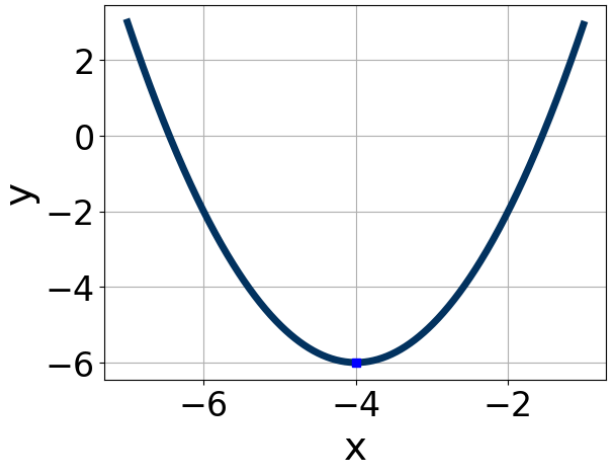
C. $x_1 \in [-5.27, -3.33]$ and $x_2 \in [-0.41, -0.32]$

D. $x_1 \in [-6.8, -5.15]$ and $x_2 \in [-0.33, -0.24]$

E. $x_1 \in [-20.47, -19.44]$ and $x_2 \in [-18.02, -17.91]$

---

9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [1, 2]$, $b \in [6, 13]$, and $c \in [8, 11]$

B. $a \in [-3, 0]$, $b \in [6, 13]$, and $c \in [-25, -19]$

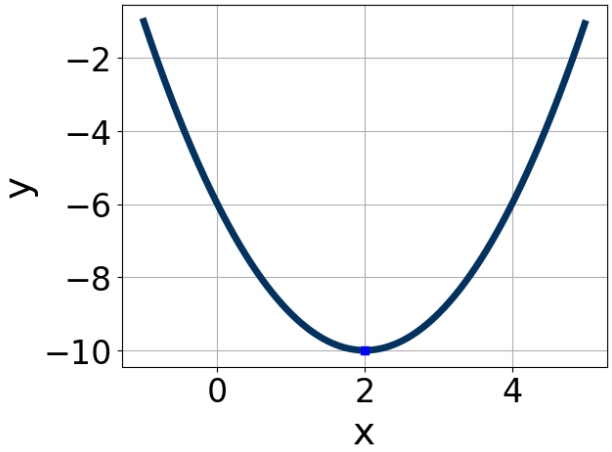
C. $a \in [-3, 0]$, $b \in [-10, -6]$, and $c \in [-25, -19]$

D. $a \in [1, 2]$, $b \in [-10, -6]$, and $c \in [22, 26]$

E. $a \in [1, 2]$, $b \in [-10, -6]$, and $c \in [8, 11]$

---

10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-0.9, 1.7]$, $b \in [-4, 0]$, and $c \in [-9, -4]$

B. $a \in [-1.7, 0.1]$, $b \in [-4, 0]$, and $c \in [-14, -12]$

C. $a \in [-1.7, 0.1]$, $b \in [3, 6]$, and $c \in [-14, -12]$

D. $a \in [-0.9, 1.7]$, $b \in [3, 6]$, and $c \in [-9, -4]$

E. $a \in [-0.9, 1.7]$, $b \in [3, 6]$, and $c \in [13, 15]$
